variety of Orders. The same condition, as has been noted, characterises that ancient Ungulate form *JSuprotogonia.* Even where the teeth seem at first sight to be tritubercular a detailed study shows traces of otherwise vanished cusps.

It must be remembered in basing arguments upon the early Jurassic and Cretaceous mammals, that our knowledge of them mainly depends upon lower jaws, the teeth of which are usually simpler in pattern than those of the upper jaws. Moreover, another fact, not always insisted upon, must not be lost sight of. In many of those creatures the jaws were of small size, and yet accommodated a large series of molar teeth. ^*mpJiitherium,* for example, had six molar teeth, and five is a number frequently met with. As the teeth are so numerous and the jaws so small it seems reasonable to connect the simplicity of the structure of the teeth with the need for crowding a number together. The same argument may partly account for the superabundant teeth of many Toothed Whales, It is true that the Manatee has very numerous grinders which are yet complex; but then in this animal there is a succession, and the jaw does not hold at a given time the entire series, with which it is provided in relays. On the other hand, where there are few molars they are often of the multitxibercular type, or at least approach it; of this the Multitubereulate *Poly"mastodon* is a good example ; so, too, the molars of *Hydrochoerus,* and of many other Rodents.

It is well known that the fourth deciduous molar of the upper jaw, which is replaced by a permanent premolar in the fully adult animal, is of a more complex structure than its successor. This may indeed be extended to premolars earlier in the series. In the Dog " the second and first milk molars closely resemble the third and second premolars " ; now the milk premolars belong evidently to the same dentition as the permanent molars, and they are earlier teeth than the later-developed replacing teeth. It is therefore significant that these earlier teeth should be more cuspidate than the later teeth. It tolls distinctly in favour of th© simplification as opposed to

the complication of teeth in time, in the groups concerned.

These facts may possibly be applied in explanation of the simple teeth of some of the Jurassic and Cretocoous mammals. It has been, mentioned that absolute trituberculy is exceedingly rare among those ancient creatures; more generally there are to